

TO: Salmon Recovery Funding Board

FROM: Washington Independent Science Panel
Dr. Kenneth Currens, Chairperson

DATE: 15 November 1999

SUBJECT: Comments on “Board Scope and Initial Grant Funding Process”

The Independent Science Panel (ISP) is to provide an independent assessment of Washington’s salmon recovery planning. Although the recovery plan is still under development, the Salmon Recovery Funding Board (SFRB) is expected to approve funding for projects in the near future. The SFRB has outlined the Board’s scope and initial grant funding process in a memo dated October 6, 1999.

To help ensure that projects to be funded in the near future by the SFRB are consistent with a scientific approach, we offer the following comments regarding the integration of state-wide recovery planning and the process outlined in the SFRB’s October 6th memo. Context of Recovery Planning

The problem facing the State is to base decisions on a scientific understanding of the combination of harvest, habitat protection and improvement, hatchery fish production, and passage needed to recover salmonids to levels that will ensure their persistence within regions or watersheds and provide a surplus for harvest. This will require a systematic approach. Ideally, these might occur in several steps.

1. The first step is to specify the distribution, abundance, and productivity of subpopulations or stocks needed to exceed the viability threshold and to sustain harvest.
2. The second step is to assess what is possible at each site, watershed, or region. These “watershed assessments” can be achieved through a variety of systematic approaches that will help identify the factors disrupting the structure and dynamics of a watershed and provide a basis for assessing what changes are needed to halt disruption that is deleterious for salmonids.
3. The third step is to use known and established scientific relationships to predict likely outcomes. Scientifically, these are expressed as models. The systematic use of models can be used to identify and avoid trivial pursuits, compare the outcome of alternative scenarios, examine uncertainty and statistical confidence, and provide transparency to the public. Ideally, we expect quantitative projections of likely benefits for fish population distribution, abundance, and productivity to result from the improvements identified under step two. Projections from models may have uncertainty associated with them, because specific information is not available. Using qualitative predictions, indicators or indexes can help, as long as they are based on formal models describing their

linkage to fish distribution, abundance, and productivity and incorporate critical expert review of existing information and “best estimates.”

4. Monitoring is a key element in all aspects of the recovery program. Monitoring provides accountability and learning. Monitoring is necessary to determine whether projects were implemented, whether they were effective, and whether the scientific relationships upon which the expected benefits were based were appropriate.

Because the recovery program has ESU, regional, metapopulation (a population of interacting subpopulations), WRIA, watershed, stream, stream-reach objectives, it will take a significant amount of up-front planning and continuing analysis to ensure that recovery actions are effective and monitoring information is being used adaptively to learn from mistakes and successes. Understanding and documenting responses from recovery actions demand monitoring of sufficient intensity to detect a change if it occurs. Many responses that we are interested in are so variable, however, that detection of change requires effort and cost beyond what have been expected in the past. Experimental designs to control for variation may be complex. These factors may make it unreasonable to proceed with many projects that seem otherwise to hold great promise unless monitoring and project funding are approached systematically.

Interim Considerations

In the interim, it will be tempting to award dollars to projects that appear to be “no-brainers” or obvious actions that would help recovery. We do not believe that these are easy to identify and so far no criteria have been developed to judge these. Recognizing the interim demand, however, we offer some suggestions:

1. Do no harm. No-brainers are proven low-cost, high return efforts that have strong precedents (that is the ecological relationships are well known and established).
2. Protect the best habitat; restore the rest. Data may not always be immediately available to provide a rigorous prediction of increase in fish distribution, abundance, or productivity from protecting the best habitat where it has been identified. Opportunities to protect the best habitat should not be lost while these data are being collected.
3. Provide intervention where it is needed now. This occurs where demographic trends suggest that extinction or extirpation of an indigenous stock is imminent without immediate intervention.
4. Avoid actions that will undercut abilities to monitor and evaluate future actions and strategies. For example, potential experimental designs for monitoring important “restoration experiments” may be compromised by funding interim projects have not been well coordinated.

Recommendations

The following recommendations are based on our understanding of the context for recovery. We recognize that these are not strictly “science” recommendations, but they

are consistent with the context and considerations presented above and address issues raised by the SFRB in their memo.

Establish a science team (ST) or scientific support process to assist the SFRB. The ST needs to be able to use known and established scientific relationships and suitable models for making recommendations to the SFRB on the likelihood of success. In the longer term, if the steps outlined above are followed, the SFRB may need scientific assessment of RFPs (Request for Proposals) for the work needed to meet overall recovery goals. For example, areas where data were not available and decisions were based on modeling and qualitative best estimates could be identified as research needs so that decisions could be improved.

Ensure that watershed assessments are completed for all target areas as soon as possible. Develop a system to track the monitoring programs across different geographical and temporal scales, to allow access to data, to analyze the trends, and to provide comprehensive and integrated feedback for adaptive management actions. Until steps 1-4 (above) are completed, defer all actions that cannot be directly related to an increase in fish distribution, abundance, or productivity.

The ISP believes that a well-founded scientific basis for recovery depends on adherence to the systematic approach described above. It calls for clear identification of goals, development of a quantitative assessment of hypotheses for attaining those goals, selection of alternatives with greatest probability for meeting objectives, implementation, and assessment using rigorous monitoring.

Thank you for the opportunity to comment. We look forward to working with you further on these and other issues in the future.